

## COE for UAS Questions and Answers

### Posting for August 1, 2014

#### Research Areas

**Q 36** – Has the FAA identified any COE research areas of interest?

**A** – The FAA has identified initial COE research areas of current interest which may evolve over time to adapt to the needs of the NAS. The agency conducts research to inform and validate the UAS Roadmap and to support UAS integration. The FAA research conducted by the COE will be consistent with this philosophy.

Initially, the COE applicants will submit proposals addressing the list of research areas below. Thereafter, the FAA will coordinate specific research activities with the selected COE to ensure the research aligns with internal FAA systems engineering documents, see: <http://www.faa.gov/uas/publications/>

The Research Areas (as of July 30, 2014) are:

1. Air Traffic Control Interoperability
2. Airport Ground Operations
3. Control and Communication
4. Detect and Avoid (DAA)
5. Human Factors
6. Low Altitude Operations Safety
7. Noise Reduction
8. Spectrum Management
9. Unmanned Aircraft (UA) Crew Training and Certification, Including Pilots
10. Unmanned Aircraft Systems Traffic Management
11. UAS Wake Separation Standards for UAS Integration into the NAS

#### Solicitation/Proposals

**Q 35** – We are in the process of preparing our proposal and team for the Center of Excellence for UAS solicitation. We want to know if you can give us a website and/or contact person where we can access or have a copy of previous proposals to review.

**A** – The lead universities are included in the COE briefing package from the public meeting, and they are also noted on our COE website: [www.faa.gov/go/coe](http://www.faa.gov/go/coe). Therefore, the requests for these documents may be sent directly to the COE Lead University which is the institution responsible for submitting the final proposal to the FAA in response to the solicitation. The FAA COE Program Office does not release proposals submitted in response to our COE solicitations.

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**Q 34** – How many COEs will be established in this call? Is this mostly aimed at a single winning team or is the FAA expected to award several COE.

**A** – The Administrator is expected to select one COE team.

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**Q 33** – Is the COE UAS start-up schedule as discussed at the COE public meeting realistic? Is the COE Program Office likely to adhere to the stated goal of proposal submissions due by mid-September with the expectation that the COE for UAS will be fully operational by summer or fall of 2015?

**A** – The FAA is planning to adhere to the schedule discussed at the public meeting which would result in proposal submission mid-September, evaluations during October and November, possible selection and announcement early 2015, and the definition of the COE research agenda immediately thereafter. This schedule would enable the FAA to fund start up activities which could begin at/with the selected COE universities as early as the 2015 summer session or by next September at the latest.

Please note, the current schedule is based on the publication of a Final Solicitation within the next six weeks. If necessary, revisions to this schedule would be announced by early August and would likely result in a 2016 COE UAS start up at the earliest.

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**Q 32** – I represent a Flight Test Institute which is the academic and research wing of the National Test Pilot School (NTPS), a licensed not-for-profit civilian educational institute. Our master's degree program is also accredited by the Engineering Accreditation Commission of ABET. We would like to participate in the FAA COE for UAS but our research institute does not have the capacity to function independently as a COE. I do however believe that we would be able to contribute significantly in the fields of flight testing and certification of the research areas listed in the draft solicitation dated May 27, 2014. NTPS operates a remotely piloted C150 (OPA) that has been approved by the FAA for academic research and education, and has been included in our professional test pilot/flight test engineer and master's degree programs. We believe that this asset as well as the knowledge of our test pilot and flight test engineer faculty would be extremely beneficial to the FAA COE UAS program.

We would like to partner w academic / research organizations who intend to submit a proposal for the FAA COE UAS. How can I contact these individuals to explore such an option?

**A** – Once selected, you may contact the COE members directly to discuss potential involvement with the new team. Additionally, the list of COE UAS public meeting attendees is posted on this website. There will also be mailings to those who have requested to be on our mailing list and to the public meeting attendees who were agreeable to having their contact information made available. You may feel free to contact university representatives to determine the level of interest in having your Institute join in pre-proposal activities.

## Funding

**Q 31** – How much funding will be allocated annually for the COE? There seems to be different amounts reflected in the Q&A and the presentations, and FAA is silent on this commitment in the solicitation, not usually the case. What dollar amounts are most likely and should we plan for annually in our proposal?

**A** – The FAA has not yet defined specific UAS COE research initiatives for FY15 & FY16 and the associated level of required finding. The minimum level guaranteed to the COE is \$500,000 per year.

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**Q 30** – How much funding is initially available from the FAA?

1. Will this amount reflect only what Congress dictates?
2. Will this amount be the required match a team should plan to provide each year or the minimum match?

**A** – The FAA has not yet defined specific UAS COE research initiatives for FY15 & FY16 and the associated level of required funding.

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**Q 29** – Generally a COE is created with a statement from a sponsor that makes a commitment of funds. Are we to understand that there is currently no sponsor making this commitment beyond Congress? Is it fair to interpret that the UAS office is making no independent commitment?

**A** – The FAA considers the COE to be a valued research provider and partner in our UAS research and development portfolio. We anticipate COE-managed research will be sponsored by FAA in the future. However, the FAA has not yet defined specific UAS COE research initiatives for FY15 & FY16 and the associated level of required funding. The minimum level guaranteed to the COE is \$500,000 per year.

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**Q 28** – How does the FAA intend to fund the UAS COE in FY15 and FY16? The Congressionally mandated \$1.1M for UAS start up is hardly adequate to initiate a research initiative. Are we to conclude the start-up money is for administrative costs and travel only? At what level has the FAA committed funds for the research activities? Pulling together a proposal is costly for all involved. If research funding is so low does this indicate the FAA's level of commitment? Funding at the \$1M annually level will not give the FAA the results requested on your announcement.

**A** – Congress has appropriated funds in FY 14 for FAA to complete the establishment of the COE for UAS, and the sponsoring organization is finalizing a list of topic areas that the FAA is expecting to address with COE university partners and affiliates. At this time, the FAA is committing the \$1.144M to cover the first 2 years of research and related activities which will be conducted during FY 15 and FY16. Future FAA requirements and Congressional funding is both unknown at this time. The FAA plans to request

additional funds in the FY 17 budget. The anticipated COE level of effort and annual commitment will be formally stated in the Draft Solicitation which will be issued prior to the public meeting.

The FAA COE sponsor makes adequate funds available to satisfy administrative costs and to meet the requirements of the COE Program during start up. This would include support to oversee and track COE activities, establish a university COE program office, as well as the travel funds needed by the COE core members to attend the required: four meetings during the first year, and the two meetings each year thereafter.

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**Q 27 – Who can apply for the COE and receive funds?**

**A –** U.S. colleges and universities may submit proposals in response to the Final Solicitation. Their proposals will include industry and other affiliates expected to support and serve on the COE team. The universities will be required to match federal grants, dollar for dollar, from nonfederal sources; therefore, the industry and nonfederal affiliates are an important component of the proposed team. Although only the COE universities are eligible to enter into cooperative agreements and receive funding through an FAA grant or contract award, in accordance with Public Law 101-508, the COE may also contract with and sub-award research and other tasks to others as appropriate (partners and affiliates).

## **Matching Funds/Cost Sharing**

**Q 26 –** Can new or ongoing STEM programs relevant to UAS operated by a COE team member count as a match, such as HS programs, summer camps, etc.

**A –** Yes, STEM efforts associated with the COE - UAS can be documented and submitted toward matching contributions.

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**Q 25 –** Was it stated at the meeting that matching contributions could be spread out over the initial 5-year cooperative agreement if permitted by the educational institution?

**A –** Yes, the FAA encourages matching on a task-by-task basis and some education institutions require that matching plans accompany each proposal. However, the FAA will audit the actual contributions during year 4, and all obligations must be satisfied by the end of year 5, prior to the expiration of the initial cooperative agreement.

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**Q 24 –** Does each individual university within a team have to match dollar-for-dollar or does just the team as a whole have to provide match?

**A –**

1. Each individual university team member should be willing and able to generate matching contributions to assure that this responsibility is equally assumed by all.
2. The FAA does allow the team to pool matching contributions.
  - However, how, when and if matching contributions are shared by the COE members, are determinations made first by each individual COE University Fiscal Officer.

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**Q 23 –** Can \$:\$ matching be in-kind (e.g. materials, services)?

**A –** Yes, matching may be in-kind in keeping with the OMB guidance posted on this site.

**Q 22 –** Does \$:\$ matching applies to IDIQ tasks? It seems unfair to make industry pay for FAA-required deliverables.

**A –** Rather than a required dollar for dollar match, contributions are negotiable when tasks are funded through the contract.

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**Q 21 –** Given the high costs of proposal development (especially for industrial partners dedicating human resources to the effort), can the funds spent in proposal development by industry partners be counted as an in-kind match contribution?

**A –** After a team is selected, the 'announcement' date is stated on the cooperative agreements. On that date, team members and affiliates may begin capturing contributions toward their matching obligations.

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**Q 20 –** Does it matter whether the matching funds come from industry or state/local governments – will they be weighted differently?

**A –** The matching contributions must be generated from a non-federal source and will not be weighted differently during the evaluation process.

## **Roles**

**Q 19 –** How do you see the role of the Air Transportation Centers of Excellence (COE) in relations with stakeholders?

*Suggestion: The COE should not only be a supplier of general directions and a facilitator for the stakeholders, but should also actively promote the work of participants showing progressive results. Periodic reports and presentations to COE and FAA will ensure that progress is on schedule. The COE should approve the near-term, intermediate, and long-term milestones set by industry. The milestones must be objectively measurable.*

**A** – The FAA views the COE as a research partner as we fund half the work. The center members are required to generate dollar-for-dollar matching contributions from non-federal sources to augment FAA COE efforts and to solidify the partnership. These contributions may be applied to an individual task, the COE for UAS or the COE Program overall. With concurrence from their Fiscal Officers, some COE universities pool excess match and are able to share match across the member universities as needed.

#### COE Establishment / Year 1 -

1. Cooperative Agreements / Funding: Once the COE selection is made and announced, the FAA enters into a cooperative agreement with each core university. The cooperative agreements enable the government to have a close working relationship with each core member, and to fund the COE universities through matching grants which are awarded for public purpose. Those organizations providing additional matching funds may choose to augment FAA research activities or expand the research agenda to more closely align with their own interests.
2. Quarterly Meetings - The FAA also requires the newly selected COE to meet quarterly during the first year. This facilitates initial introductions between the team members and the FAA and other potential sponsors of research and related COE activities. Additionally, these meetings enable the universities to make known to the various sponsors the capabilities of their team and the specific resources that will be made available during start-up and over the life of the COE. These meetings also provide the agency an opportunity to discuss our research requirements and to work with the COE team to develop our initial research agenda.

#### COE Activities / Year 2+ -

3. The sponsor has expressed an interest in awarding an indefinite delivery indefinite quantity (IDIQ) contract to the COE members. These contract tasks are not subject to 1:1 match and the FAA is able to require deliverables under this vehicle for the benefit of the government. Others may also contract directly with the COE at any time to augment research efforts and increase the body of knowledge in the field. Under the IDIQ contract, the COE develops and reports semi-annually the near-term, intermediate, and long-term milestones which are objectively measurable.
4. The FAA COE Program Office requires the COE to submit various standardized reports each year, and requires research reports quarterly throughout the life of the center. The COE Program Office requires the COE to conduct meetings semi-annually to report

progress on each task and to plan for the next year with the FAA and other stakeholders. Prior to the close of each cooperative agreement, the FAA also requires each COE to conduct a major symposium for a broad audience to highlight their research results. Additionally, a COE evaluation will be conducted, matching contributions will be reconciled and audited, and the COE cooperative agreements will be renewed pending the evaluation results of Phase I research, management, fiscal and related COE activities.

#### COE Reports -

In addition to other elements, the COE Lead and core universities are responsible for tracking and reporting quarterly to the FAA COE Program Office all: 1) grant and contract funds received and matched; 2) sources of funds and in-kind contributions; 3) funds expended; 4) sub award amounts, sub award recipients and tasks; and the 5) progress being made specific to each task.

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**Q 18** – What is the most effective way to organizing a diverse group of stakeholders for developing such technical parameters?

*Suggestion: For achieving effective results, we must organize a diverse group of stakeholders. Participation from the general public should be encouraged via mediums of publication that do not merely attract large companies that may have an interest in maintaining the status quo. Experts with knowledge in every field and subfield regardless should participate to ensure that the solution reached truly does consider the full extent and capabilities of modern technology and future growth in technology.*

**A** – The FAA COEs have found it beneficial to form Advisory Boards to assure that stakeholders have a formal mechanism in place that facilitates participation in COE meetings and technical discussions. Members of such groups also may contribute to matching requirements if they represent non-federal entities. Advisory Board members are generally from other federal and local government organizations, industry - large and small, and also represent other groups and individuals who wish to contribute to COE efforts and formally engage in meaningful dialogue with COE members and affiliates. In addition to participating in the ongoing discussions, both federal and non-federal organizations may fund COE research specific to their own needs and interests throughout the life of the center.

Congress also requires COEs to engage in information dissemination activities which can take many forms. Such efforts may include: the formation of an active Advisory Board and routine meetings with the members; open meetings with various groups; publications; presentations at conferences; the conduct of workshops, courses, etc.

As you suggest, collaboration and coordination across organizations are key concepts within the COEs and serve to augment FAA sponsored research, education and training, avoid duplication of effort, and generate matching contributions.

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**Q 17** – Can a university be an affiliate on one team that submits a proposal, and also be listed as a core member on another team proposal?

**A** – Yes.

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**Q 16** – Once selected, does the FAA expect members of the COE to work on projects in teams?

**A** – FAA sponsors have addressed this concept individually as requirements have been defined. Unless a university could justify conducting the research alone, some sponsors have required teaming. Where requirements could benefit from a joint approach, the COE would generally propose to use their best resources and team members to conduct the research.

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**Q 15** – If the FAA prefers to work with each individual university member on the selected team, why do you expect a lead university to be designated during the proposal phase?

**A** – Generally, the lead university serves to facilitate the team discussions during the proposal writing period and will most often finalize the submission and submit it to the FAA on behalf of the team.

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**Q 14** – If the FAA expects the lead university to continue to serve the team as a 'lead' after the COE is selected, what role would that university play if it is not serving as the prime for each award?

**A** – The FAA does want a direct relationship with each COE university member as we have found this model to be more effective and efficient, and most COE universities agree. When a university agrees to serve as a 'prime,' it is ultimately responsible for providing all members' matching requirements, should these requirements not be met. With no prime, each individual COE university is fully responsible for providing matching contributions unless an agreement has been reached in advance with a member university that would be willing to share excess matching contributions. This would be done on a case-by-case basis.

In your proposal, the COE itself is expected to define roles for an administrative and/or technical lead. This individual would serve to provide overall management, and fiscal and technical oversight of COE activities. The role(s) may be combined or not, rotated or not.

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**Q 13** – When the FAA issues a cooperative agreement or grant to a 'core' university does the 'lead' university have any liability on that award?

**A** – All COE core members will enter into a cooperative agreement with the FAA and be responsible to



adhere to the terms and conditions of each. The members serving on the 'research team' proposing to conduct specific research are responsible to the FAA for the work as proposed and agreed upon. The lead university is responsible for the work it proposes and has been funded to conduct. The lead or administrative lead university is generally responsible for collecting, reviewing and submitting the standardized university reports that are required by the COE Program Office, and the technical and other reports as required by the research sponsors.

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**Q 12** – When the FAA issues a contract award to a core university within the COE, does the lead university who signed the COE award with the FAA have any liability on the contract to their core team members?

**A** – When the FAA issues a contract to a COE member university, the recipients of the task award are responsible for providing the services, conducting the activities, and providing the deliverables to the FAA for FAA purpose as defined in the award. If the lead university has accepted a contract task, the lead university is responsible for performing in accordance with the terms and conditions of the specific award.

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**Q 11** – Can industry partners be on more than one COE team?

**A** – Yes

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**Q 10** – Can universities be on more than one COE team?

**A** – Yes

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**Q 9** – Can a University currently serving as a COE Lead propose serving on the new COE for UAS at the same time?

**A** – Although there is no FAA policy specifically addressing this, COE enabling language, PL 101-508, has mandated "geographic equity" in the distribution of funds and the location of COEs. Therefore, in order to comply with what has been understood by the FAA to be Congressional intent, to date, the FAA has not supported a university to lead more than one COE at the same time. The FAA has discouraged COE university teams from proposing a "lead university" that would serve on a new team at the same time the same university serves as a lead on a mature COE. However, an individual university may serve as a core or second tier member concurrently on multiple COE teams.

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**Q 8** – Should a team propose an Advisory Board in response to the COE UAS solicitation, would FAA

employees be available to serve on such a group?

**A –** No, although other government entities may be called upon to serve as members on a COE Advisory Board, FAA employees are prohibited from serving in a capacity where we might be perceived as advising ourselves or be in a position to influence those who do advise us.

Invitations to attend such meetings, however, would be permitted as necessary.

## **Proposal Evaluation/Selection**

**Q 7 –** Does the selection process in any way favor teams whose members currently receive less FAA funding? Does the FAA try to spread funding equally at the University level once a COE is selected?

**A –** The FAA evaluation process is based on standardized selection criteria defined within the COE enabling legislation, Public Law 101-508, and the factors stated in the Final Solicitation. The COE university team members must demonstrate superior capabilities and resources available to meet or exceed the stated overall selection criteria and the technical factors. Once selected, many COE sponsors attempt to involve the full team in initial research activities, to the extent possible, in order to comply with Congressional language that references the geographic equity in the distribution of funds. Thereafter, however, funding is generally based on FAA needs as they relate to the capabilities of individual members.

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**Q 6–** Who will make the final COE selection?

**A –** Following a rigorous technical evaluation by a team of subject-matter-experts and a management and fiscal review, the FAA Administrator will select the COE team in collaboration with the Secretary of Transportation.

## **COE Management/Administration**

**Q 5 –** How long will the COE continue for?

**A –** The COE Program Office enters into two 5-year cooperative agreements with each COE core member university.

## **Industry**

**Q 4 –** Would the FAA be willing to host a separate session during the public meeting to discuss with the

industry representatives how we could help enable rapid testing and deployment of UAS?

**A** – The primary purpose of the FAA COE Public Meeting is to inform all those who might be interested in joining a proposed team to fully understand the FAA COE congressional mandates and our technical requirements. This is also the opportunity for the proposing universities to form a strong group of experts who will partner with the government to focus on the subject topic area over the next decade. Additional time that might be necessary during the public meeting would most likely be dedicated to the universities, as they are responsible for forming their own teams, and writing and submitting the proposals.

Rather than to meet with the FAA, industry would be encouraged to align with the university team(s) during the public meeting and to send a letter of commitment to the COE Program Office expressing your willingness to participate and the resources that might be made available to the government and the selected team. This letter would be made available to the lead university serving on the selected team.

## General

**Q 3** – I have reviewed the Q&A section of the UAS COE website and I seem to remember other questions from the Public Meeting that don't appear to have been posted. Are there remaining questions that need answers and when might the answers be posted? Any feedback would be appreciated.

**A** – The COE Program Office - attempts to respond to the questions received each week which are specific to COE Program matters in an attempt to provide clarity and guidance for universities preparing proposal submissions. However, the UAS technical questions, and all questions related to COE test site involvement, are sent to FAA headquarters where answers are developed with our sponsor / technical team and coordinated before being returned to the COE Program Office for posting. Many questions submitted to date address uas related areas that are complex and, although many are legitimate questions as posed, they pertain to areas that have not yet been solidified by the FAA; therefore, some of the uas specific questions cannot be answered at this time.

## Public Meeting

**Q 2** – Could you please make the list of attendees at the public meeting available?

**A** – The COE meeting attendees are posted on our COE website. We encourage all interested parties to check the site regularly for Q&A updates and announcements.

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**Q 1** – Will the slide presentations be made available electronically, if so, how and when?

**A** – The COE public meeting slide presentations are available for download on this official COE website under the tab entitled "Public Meeting Presentations" in their respective time slots on the Agenda:  
[www.faa.gov/go/coe](http://www.faa.gov/go/coe)